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REMARKS/ARGUMENTS

In an Office Action dated September 25, 2003, claims 14-17 and 48-51 were allowed. Claims 1-3, 5, 6, 9, 10, 22-25, 28-31, 34-39, 42, 43, 58-65 and 70 were rejected. Claims 7, 8, 40 and 41 were objected to. By this Amendment, claims 1, 28, and 29 have been amended. Claims 1-3, 5-10, 14-17, 22-25, 28-31, 34-43, 48-51, 58-65, and 70 remain pending.

I. Claim Rejections – 35 USC 102

Claims 22-25 and 58-65 were rejected under 35 USC 102(e) as being anticipated by US Publication 2002/0113966 (the Shchegrov reference).

A. Claims 22, 58, and 59

With respect to claims 22, 58, and 59, the Examiner asserts that the Shchegrov reference discloses “generating a new trial signal using the set of trial parameter values (see paragraph 0051) and storing the new trial signal in the profile library (see Fig. 6B and paragraphs 0011, 0046; 0060, and 0061).”

In paragraph 51, the Shchegrov reference discloses, “[i]f the match is less than satisfactory (block 126), the profile and film parameters (block 106) are then varied or adjusted by means of a nonlinear optimization tool (block 126) in a feed back path.” In paragraph 59, the Shchegrov reference discloses, “[t]his spectrum or spectra are then compared with the measured data as in block 122 of FIG. 5A and a non-linear optimization tool may be utilized as described to arrive after convergence, along path 254, at a final set 260 of parameter values of the profile type.” In paragraph 60, the Shchegrov reference discloses, “[i]n order to speed up the process described in reference to FIG. 5A, a coarse library such as that indicated in FIG. 6B may be pre-computed off-line, so that each profile type in the gallery is stored together with a number of sets of initial parameter values, such as those corresponding to the intersection points (e.g., 252) in the grid-like structure in FIG. 6B, and their corresponding spectra.”

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Note that intersection point 252 in Figure 6B is labeled "Initial guess" and Figure 6B is labeled "Selection of the starting point for nonlinear optimization from the coarse library."

Additionally, note that the coarse library is described as being pre-computed off-line.

Thus, the coarse library disclosed in the Shchegrov reference stores a profile type with a set of initial parameter values that are used as the Initial guess 252 (see Figure 6B) of the optimization process to obtain a Final result 260 (see Figure 6B). The Shchegrov reference does not disclose or suggest storing the Final result 260 or any of the intermediate results between the Initial guess 252 and the Final result 260 generated during the optimization process in the coarse library. Indeed, because the Shchegrov reference discloses that the coarse library is pre-computed off-line, it teaches away from storing the Final result 260 or any of the intermediate results in the coarse library.

In contrast, claims 22, 58, and 59 recite, in part, "if the trial signal does not satisfy the threshold, generating a new trial signal using the set of trial parameter values and storing the new trial signal in the profile library." Therefore, Applicants assert that claims 22, 58, and 59 are allowable over the Shchegrov reference.

B. Claims 23-25 and 60-65

Applicants assert that claims 23-25 and 60-65, which variously depend from claims 22, 58, and 59, are allowable for at least the reason that they depend from allowable independent claims.

II. Claim Rejections – 35 USC 103

Claims 1-3, 5, 6, 9, 28-31, 34, 35, 42, 43, and 70 were rejected under 35 USC 103(a) as being unpatentable over the Shchegrov reference in view of US Patent No. 6,219,142 (the Kane reference). Claim 10 was rejected under 35 USC 103(a) as being unpatentable over the Shchegrov reference in view of US Patent No. 4,999,508 (the Hyakumura reference). Claims 36-39 were rejected under 35 USC 103(a) as being unpatentable over the Shchegrov reference in view of US Patent No. 6,476,920 (the Scheiner reference).

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A. Claim 1

With regard to claims 1, 5, and 70, the Examiner asserts that the Shchegrov reference discloses "storing the second trial profile and the second sample trial spectrum signal data in a library of profiles. For support the Examiner cites Fig. 6B and paragraphs 0011, 0046, 0060, and 0061.

As set forth above, the Shchegrov reference discloses that the coarse library is pre-computed off-line. More particularly, paragraph 60 in the Shchegrov reference specially states, "a coarse library such as that indicated in FIG. 6B may be pre-computed off-line." Thus, the profiles types stored in the coarse library are also pre-computed.

In contrast, claim 1 has been amended to recite, in part, "determining parameter values for a second trial profile using at least one optimization technique based on the comparison of the first trial spectrum signal data to the first actual spectrum signal data." Claim 1 also recites, "storing the second trial profile and the second sample trial spectrum signal data in a dynamic library of profiles."

Note that claim 1 does not recite storing a profile in a dynamic library of profiles. Instead, claim 1 recites storing the second trial profile in the dynamic library of profiles, where claim 1 recites that the parameter values for the second trial profile are determined "using at least one optimization technique based on the comparison of the first trial spectrum signal data to the first actual spectrum signal data."

Because the profile types disclosed in the Shchegrov reference are pre-computed and the Shchegrov reference does not disclose that the parameters values for the profile types are determined "using at least one optimization technique based on the comparison of the first trial spectrum signal data to the first actual spectrum signal data," Applicants assert that storing the profile types in the coarse library does not disclose "storing the second trial profile and second sample trial spectrum signal data in a dynamic library of profiles."

With regard to the Examiner's application of the Kane reference, Applicants note that claim 1 does not recite "a dynamic-link library." Instead, claim 1 recites "storing the second trial profile and the second sample trial spectrum signal data in a dynamic library of profiles." Applicants assert that the Kane reference does not disclose a dynamic library or profiles for storing

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the second trial profile and the second sample trial spectrum signal data. Instead, the Kane reference discloses a system for determining wave characteristics from wave phenomena.

Thus, Applicants assert that claim 1 is allowable over the Shchegrov reference either alone or in combination with the Kane reference.

B. Claims 2, 3, 5, 6, 9, and 10

Applicants assert that claim 2, 3, 5, 6, 9, and 10, which variously depend from claim 1, are allowable for at least the reason they depend from an allowable independent claim.

C. Claims 28 and 29

Claims 28 and 29 have been amended to recite, in part, "determining parameter values for a second trial profile using at least one optimization technique based on the comparison of the first trial spectrum signal data to the first actual spectrum signal data." Claims 28 and 29 also recite, "storing the second trial profile and the second sample trial spectrum signal data in a dynamic library of profiles."

Thus, Applicants assert that claims 28 and 29 are allowable over the Shchegrov reference either alone or in combination with the Kane reference for at least the same reasons set forth above for claim 1.

D. Claims 30, 31, 34, 35, 36-39, 42, and 43

Applicants assert that claims 30, 31, 34, 35, 36-39, 42, and 43 are patentable for at least the reason that they depend from allowable independent claims, claims 28 and 29.

E. Claim 70

Claim 70 has been amended to recite, in part, "determining parameter values for a second trial profile using at least one optimization technique based on the comparison of the first trial spectrum signal data to the first actual spectrum signal data." Claim 70 also recite, "storing the second trial profile and the second sample trial spectrum signal data in a dynamic library of profiles."

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Thus, Applicants assert that claim 70 is allowable over the Shchegrov reference either alone or in combination with the Kane reference for at least the same reasons set forth above for claim 1.

III. Allowable Subject Matter

Claims 7, 8, 40, and 41 were objected to as dependent upon a rejected base claim, but would be allowable if rewritten in independent form. For the reasons set forth above, Applicants assert that the base claims from which claims 7, 8, 40, and 41 depend are allowable. Thus, claims 7, 8, 40, and 41 are also allowable.

Claims 14-17 and 48-51 were found to be allowable. Applicants thank the Examiner for the allowance of these claims.

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IV. Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, Applicant petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 509982001400. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

By 

Peter J. Yim

Registration No.: 44,417

MORRISON & FOERSTER LLP

425 Market Street

San Francisco, California 94105

(415) 268-6373

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